Wisconsin DNR 24K Hydrography Version 3

ArcSDE Data Dictionary

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OVERVIEW

Wisconsin DNR's 24K Hydrography Version 3 data are available in the enterprise data repository schema on the development and production instances of ArcSDE/Oracle. Four feature classes are loaded in the SDEDNR.EN_SURFACE_WATER_DATA_24K feature dataset:

- ***SDEDNR.EN_SURFACE_WATER_LN_24K***
- ***SDEDNR.EN_SURFACE_WATER_SHAID_AR_24K***
- ***SDEDNR.EN_SURFACE_WATER_STEM_LN_24K***
- ***SDEDNR.EN_SURFACE_WATER_UPLND_AR_24K***

One feature class - ***SDEDNR.EN_SURFACE_WATER_MASK_AR_24K*** - is also loaded on both instances, but is not included in the SDEDNR.EN_SURFACE_WATER_DATA_24K feature dataset because of its larger spatial extent (i.e., different X/Y Domain).

The structure of each ArcSDE 24K Hydrography Version 3 feature class is described below. See DNR's ArcSDE homepage (http://intranet.dnr.state.wi.us/itworks/data/sde.asp) for more information about accessing and using ArcSDE/Oracle data.

ArcSDE FEATURE CLASS STRUCTURES

EN_SURFACE_WATER_LN_24K

This feature class contains 24K Hydrography arcs (lines), and was loaded into ArcSDE from \\centraletgo\libraries\gencov\wtm91cov\hyd24K\version3\shapefiles\hydlarc.shp. The arcs are attributed to help users define themes based on cartographic or modeling needs. This feature class should be used for cartographic purposes, analyses pertaining to lines, hydrographic modeling, and network traces.

FEATURE CLASS COLUMN	DESCRIPTION
OBJECTID	***Object ID***. Internal ArcSDE unique numerical identifier for each arc.
FNODE_ID * load source = FNODE#	***From Node Identifier***. Unique numerical identifier for each "from" node (remnant from ArcINFO coverage).
TNODE_ID * load source = TNODE#	***To Node Identifier***. Unique numerical identifier for each "to" node (remnant from ArcINFO coverage).
LPOLY_ID * load source = LPOLY#	***Left Polygon Identifier***. Unique numerical identifier for each "left" polygon (remnant from ArcINFO coverage).
RPOLY_ID * load source = RPOLY#	***Right Polygon Identifier***. Unique numerical identifier for each "right" polygon (remnant from ArcINFO coverage).
SW_NO * load source = SW_NO ** indexed	***Surface Water Number***. Unique numerical identifier for each arc.

RIVER_SYS_NAME * load source = RIVSYSNAME ** indexed	***River System Name***. Name of the river system based on USGS Geographic Names Information System (GNIS). Except for incoming tributaries, any linear water feature holding the same name as the main river to which it is attached is considered part of that river system. Examples: centerlines through reservoirs/flowages, flow potentials through backwaters and secondary flow features (braided streams). Values: • <GNIS Name> = GNIS name for the feature. Applies ONLY to arcs that carry flow. • Unnamed = No GNIS name for the feature. Applies ONLY to arcs that carry flow. • NA = Not Applicable. Applies to all arcs that DO NOT carry flow.
RIVER_SYS_WBIC * load source = RIVSYSWBIC ** indexed	***River System Water Body Identification Code***. Water Body Identification Code (WBIC) of the river system. DNR's Register of Waterbodies (ROW) database is the source of WBICs. Except for incoming tributaries, any linear water feature holding the same WBIC as the main river to which it is attached is considered part of that river system. Examples: centerlines through reservoir/flowages, flow potentials through backwaters and secondary flow features (braided streams). Values: • <WBIC> = WBIC provided by ROW. Applies ONLY to arcs that carry flow. • 0 = No WBIC provided from ROW to assign to that feature. Applies ONLY to arcs that carry flow. • -1 = Not Applicable. Applies to all arcs that DO NOT carry flow.
CARTO_USE_FLAG * load source = CARTO	***Cartography Use Flag***. Character code indicating if the feature allows for easy cartographic representation. Applies to ALL arcs. Values: • YES = feature allows for easy cartographic representation. Includes the following LINE_TYPE_CODE values: BK, CB, DC, ST, UN, and ZZ. • NO = feature does not allow for easy cartographic representation. Includes the following LINE_TYPE_CODE values: CL, EX, FP, OC, WG, and XX.
LINE_TYPE_CODE * load source = LINEAR_TYP ** indexed	***Linear Type***. Character code that indicates the linear hydrographic feature type for each arc. Applies to ALL arcs. Values: • BF = State Boundary Buffer • BK = Bank or Shoreline • CB = Cranberry Bog Waterway • CL = Stream Center Line • CW = Channel in Water Area • DC = Ditch or Canal • EX = Stream Extension • FP = Flow Potential • OC = Original Water Course • ST = Single-line Stream • UN = Unknown • WG = Wetland Gap Connector • XX = Closure Line • ZZ = Convoluted Stream
QUAD_LINE_FLAG * load source = QUADLINE	***Quadrangle Line Flag***. Character code indicating if the arc closes off a water polygon at a quadrangle boundary when the water polygon does not match between adjacent quads. Applies to ALL arcs. Values: • YES = arc closes off a water polygon. • NO = arc does not close off a water polygon.

WATER_DURATION_CODE * load source = DURATION	***Water Duration Code.*** Character code indicating the span of time during which the feature contains water. Applies to ALL arcs. Values: • PN = Perennial (based on cartographic symbolization) • FX = Fluctuating (based on LINE_TYPE_CODE *and* cartographic symbolization). Example: diffuse connectors and wetland gaps. All are based on *LINE_TYPE_CODE*) • IT = Intermittent (based on cartographic symbolization). • NA = Not Applicable (for original water courses, channels in rivers, closure lines, etc.)
LANDLOCK_CODE * load source = LANDLOCKED	***Landlocked Code.*** Character code indicating if the feature is part of a landlocked hydro network. Values: • YES = Feature is part of a landlocked hydro network that does not flow out of the state. Applies ONLY to arcs that carry flow. • NO = Feature is part of a hydro network that flows into Lake Superior, Lake Michigan or the Mississippi River. Applies ONLY to arcs that carry flow. • NA = Not Applicable. Applies to all arcs that DO NOT carry flow.
WATER_FLOW_CODE * load source = FLOW ** indexed	***Water Flow Code.*** Character code indicating if the flow of water is primary or secondary. Values: • P = Primary water flow. Applies ONLY to arcs that carry flow. • S = Secondary water flow. Applies ONLY to arcs that carry flow. • NA = Not Applicable. Applies to all arcs that DO NOT carry flow.
WATER_POLY_BANK_CODE * load source = LR_BANK	***Left/Right Bank.*** Character code indicating if the water polygon boundary is on the left or right side of the feature. Left and right are determined by the flow direction. Values: • L = Left Bank. Applies to streams, flowages, and "water polygons with centerlines or flow potential". • R = Right Bank. Applies to streams, flowages, and "water polygons with centerlines or flow potential". • LR = Left and Right Banks (single-line streams). Applies to streams, flowages, and "water polygons with centerlines or flow potential". • NA = Not Applicable. Applies to the following LINE_TYPE_CODE values: BF, CL, CW, EX, FP, OC, UN, and XX.
AREA_BND_CODE * load source = AR_BND_TYP	***Area Boundary Type Code.*** Character code that reveals the POLY_TYPE_CODE on either side of the linear feature (created by the combination of the two POLY_TYPE_CODE values on either side of a given line). Examples of the 289 possible combinations are: • DPUP = Duck pond • ISLP = Island/lake-pond (island shoreline) • LPUP = Lake-pond/upland (lake shoreline) • LPST = Closure line between a lake and stream • RFUP = Reservoir-flowage/upland (reservoir shoreline) • STUP= Stream/upland (stream bank)

ORIG_HRZ_SRC_YEAR * load source = OH_SRC_YR	***Original Horizontal Source Year***. Most recent year the data source that was utilized in our data capture; WIDNR constructed features (OH_HRZ_COLL_MTHD_CODE of TAB002, SCR004 or SCR006) carry the year date that the watershed processing was completed.
ORIG_HRZ_COLL_MTHD_CODE * load source = OH_COL_MTH	***Original Horizontal Collection Method Code***. Character code indicating the method of data collection or conversion. (i.e. how the arc was created/derived). Values: • CNV001 = Provided in digital form from known source and converted for DNR use • SCN001 = Scanning or vectorizing technique • SCR003 = Digitized on screen: feature published/visible on USGS 7.5' DRG • SCR004 = Digitized on screen: feature interpreted from USGS 7.5' DRG • SCR005 = Digitized on screen: feature published/visible on digital vector data • SCR006 = Digitized on screen: feature interpreted from digital vector data • TAB001 = Digitized on table: feature published/visible on map sheet • TAB002 = Digitized on table: feature interpreted from map sheet
ORIG_HRZ_SRC_DNOM_AMT * load source = OH_SRC_DNM	***Original Horizontal Source Denominator Code***. Denominator of map scale source.
LAST_EDIT_DATE * load source = BUILD_DATE	***Last Edit Date***. Date indicating when the feature was added and verified by the editor.
LAST_UPDATE_HYDRO_VER_NO * load source = HYD_VER	***Last Updated Hydro Version Number***. Most recent Hydro release (version) number in which the feature was edited. Example: The first release will have all arcs valued at 1.
WGS_ID * load source = WGS-ID	***Wisconsin Geological Survey Identifier***. The Wisconsin Geological Survey (WGS) quadrangle identification code.
WBIC_EDIT_USER_ID * load source = WBIC_BY	***WBIC Editor Identifier***. User ID of editor who last edited or verified WBIC.
WBIC_EDIT_DATE * load source = WBIC_DATE	***WBIC Edit Date***. Date the feature WBIC was last quality assured.
WBIC_STATUS_TYPE * load source = WBIC_STAT	***WBIC Status Type***. Character code indicating the feature's WBIC status. Values: • LOCATED = Feature does not have final approval from Don Fago. • NOT ASSIGNED = Feature has not been given a WBIC value. • ACCEPTED = Feature has been given a WBIC value. • NA = Not Applicable. Applies to all arcs that DO NOT carry flow.
GEOM_CHANGE_FLAG * load source = GEOM_CHFLG	***Geometric Change Flag***. Numeric code indicating if any dimensional or positional attributes of the feature have changed. Values: • 1 = Feature has been changed geometrically. • 0 = Feature has not been changed geometrically.
NATURAL_CHANGE_FLAG * load source = NAT_CHFLG	***Natural Change Flag***. Numeric code indicating if any natural attributes of the feature (such as LINE_TYPE, WATER_DURATION_CODE, WATER_FLOW_CODE, LANDLOCK_CODE) have changed. Values: • 1 = At least one natural attribute of the feature has changed. • 0 = No natural attributes have changed.

GNIS_CHANGE_FLAG * load source = GNIS_CHFLG	***GNIS Change Flag***. Numeric code indicating if any GNIS attributes (such as RIVER_SYS_NAME) of the feature have changed. Values: • 1 = GNIS name has changed. • 0 = No name change.
WBIC_CHANGE_FLAG * load source = WBIC_CHFLG	***WBIC Change Flag***. Numeric code indicating if the WBIC value (RIVER_SYS_WBIC) of the feature has changed. Values: • 1 = WBIC attribute has been altered. • 0 = WBIC unchanged.
REF_CHANGE_FLAG * load source = REF_CHFLG	***Reference Change Flag***. Numeric code indicating if any reference attributes of the feature (i.e., WBIC_EDIT_USER_ID, WBIC_EDIT_DATE, and/or WBIC_STATUS_TYPE - unless WBIC_CHANGE_FLAG is also set), QUAD_LINE_FLAG, ORG_HRZ_SRC_YEAR, ORIG_HRZ_COLL_MTHD_CODE, ORIG_HRZ_SRC_DNOM_AMT or WGS_ID) have changed. Values: • 1 = One or more items in the above list have been altered. • 0 = No changes.
FLIP_CHANGE_FLAG * load source = FLIP_CHFLG	***FLIP Change Flag***. Numeric code indicating if the direction of the arc has been "flipped" (direction reversed). Values: • 1 = Arc has been flipped. • 0 = Arc has not been flipped.
NEW_FEAT_FLAG * load source = NEW	***New Feature Flag***. Numeric code indicating if the feature was newly added in this Hydro release (version). Values: • 1 = A new feature. • 0 = Not a new feature.
SHAPE	***SHAPE***. ArcSDE feature class geometry parameters.
SHAPE.LEN	***Length***. ArcSDE internally calculated arc length.

EN_SURFACE_WATER_SHAID_AR_24K

This feature class contains 24K Hydrography SHAID (Simple Hydro Areas) polygons, and was loaded into ArcSDE from \\centraletgo\libraries\gencov\wtm91cov\hyd24K\version3\shapefiles\hydrshai.shp. SHAIDs are ONLY for hydro features, and do not contain islands or uplands. SHAIDs contain various descriptive attributes for cartographic and analytical purposes pertaining to water areas.

FEATURE CLASS COLUMN	DESCRIPTION
OBJECTID	***Object ID***. Internal ArcSDE unique numerical identifier for each SHAID.
SHAID_NO * load source = SHAID_NO ** indexed	***SHAID Number***. Unique numeric identifier for each SHAID.
SHAID_NAME * load source = SHAIDNAME ** indexed	***SHAID Name***. Name of the SHAID based on USGS Geographic Names Information System (GNIS).
SHAID_WBIC * load source = SHAIDNAME ** indexed	***SHAID Waterbody Identification Code (WBIC)***. Water Body Identification Code (WBIC) of the SHAID. DNR's Register of Waterbodies (ROW) database is the source of WBICs. Values: • <WBIC> = WBIC provided by ROW. • 0 = No WBIC provided from ROW to assign to that feature.
RIVER_SYS_NAME * load source = RIVSYSNAME ** indexed	***River System Name***. Name of the river system based on USGS Geographic Names Information System (GNIS). Except for incoming tributaries, any SHAID feature holding the same name as the main river to which it is attached is considered part of that river system. Examples: reservoirs/flowages, backwaters and secondary flow features (braided streams). Values: • <GNIS Name> = GNIS name for the feature. • Unnamed = No GNIS name for the feature.
RIVER_SYS_WBIC * load source = RIVSYSWBIC ** indexed	***River System Water Body Identification Code***. Water Body Identification Code (WBIC) of the river system. DNR's Register of Waterbodies (ROW) database is the source of WBICs. Except for incoming tributaries, any SHAID feature holding the same WBIC as the main river to which it is attached is considered part of that river system. Examples: reservoir/flowages, backwaters and secondary flow features (braided streams). Values: • <WBIC> = WBIC provided by ROW. • 0 = No WBIC provided from ROW to assign to that feature.

SHAID_TYPE * load source = SHAID_TYP ** indexed	***SHAID Type***. Character code indicating the SHAID type. Values: • BA = Backwater • CB = Cranberry Bog • DP = Duck Pond • DC = Ditch or Canal • FH = Fish Hatchery or farm • FE = Flooded Excavation (e.g. pits, quarries, old mines) • IA =Inundation Area • IW = Industrial Waste Pond • LP = Lake or Pond • RF = Reservoir or Flowage • ST = Double-line Stream • SD = Sewage disposal pond or filtration beds • TP = Tailings Pond • UN = Unknown hydrography polygon • ZZ = Convoluted Stream
WATER_DURATION_CODE * load source = DURATION	***Water Duration Code***. Character code indicating the span of time during which the feature contains water. Applies to ALL SHAIDs. Values: • PN = Perennial (based on cartographic symbolization) • FX = Fluctuating (based on SHAID_TYPE = CB and IA) • IT = Intermittent (based on cartographic symbolization). • NA = Not Applicable (SHAID_TYPE = UN)
LANDLOCK_CODE * load source = LANDLOCKED	***Landlocked Code***. Character code indicating if the feature is part of a landlocked hydro network. Values: • YES = Feature is part of a landlocked hydro network that does not flow out of the state. • NO = Feature is part of a hydro network that flows into Lake Superior, Lake Michigan or the Mississippi River.
LAST_UPDATE_HYDRO_VER_NO * load source = HYD_VER	***Last Updated Hydro Version Number***. Most recent Hydro release (version) number in which the feature was edited. Example: The first release will have all SHAIDs valued at 1.
GEOM_CHANGE_FLAG * load source = GEOM_CHFLG	***Geometric Change Flag***. Numeric code indicating if any dimensional or positional attributes of the feature have changed. Values: • 1 = Feature has been changed geometrically. • 0 = Feature has not been changed geometrically.
NATURAL_CHANGE_FLAG * load source = NAT_CHFLG	***Natural Change Flag***. Numeric code indicating if any natural attributes of the feature (such as SHAID_TYPE, WATER_DURATION_CODE, LANDLOCK_CODE) have changed. Values: • 1 = At least one natural attribute of the feature has changed. • 0 = No natural attributes have changed.
GNIS_CHANGE_FLAG * load source = GNIS_CHFLG	***GNIS Change Flag***. Numeric code indicating if any GNIS attributes (such as SHAID_NAME or RIVER_SYS_NAME) of the feature have changed. Values: • 1 = Either or both names have changed. • 0 = No name change.

WBIC_CHANGE_FLAG * load source = WBIC_CHFLG	***WBIC Change Flag.*** Numeric code indicating if any WBIC attributes (SHAID_WBIC or RIVER_SYS_WBIC) of the feature have changed. Values: • 1 = WBIC attribute has been altered. • 0 = WBICs unchanged.
NEW_FEAT_FLAG * load source = NEW	***New Feature Flag.*** Numeric code indicating if the feature was newly added in this Hydro release (version). Values: • 1 = A new feature. • 0 = Not a new feature.
SHAPE	***SHAPE***. ArcSDE feature class geometry parameters.
SHAPE.LEN	***Length.*** ArcSDE internally calculated feature perimeter.
SHAPE.AREA	***Area.*** ArcSDE internally calculated feature area.

EN_SURFACE_WATER_UPLND_AR_24K

This feature class contains all 24K Hydrography upland and island polygons, and was loaded into ArcSDE from \\centraletgo\libraries\gencov\wtm91cov\hyd24K\version3\shapefiles\hydrupld.shp. These polygons have descriptive attributes. Some islands may have names, but in most cases they are unnamed. No WBICs exist for islands. This feature class can be used for analysis and cartographic purposes pertaining to uplands and islands.

FEATURE CLASS COLUMN	DESCRIPTION
OBJECTID	***Object ID.*** Internal ArcSDE unique numerical identifier for each upland and island polygon.
HYDRO_POLY_NAME * load source = NAME	***Hydrography Polygon Name.*** Name of the upland or island based on USGS Geographic Names Information System (GNIS). Values: • <GNIS Name> = GNIS name for the feature. Applies ONLY to islands. • Unnamed = No GNIS name for the feature. Applies ONLY to islands. • NA = Not Applicable. Applies to ALL uplands.
POLY_TYPE_CODE * load source = POLY_TYP ** indexed	***Polygon Type Code.*** Character code indicating the type of polygon. Values: • IS = Island. • UP = Upland. Applies to ALL non-water polygons other than islands.
ORIG_HRZ_COLL_MTHD_CODE * load source = OH_COL_MTH	***Original Horizontal Collection Method Code.*** Character code indicating the method of data collection or conversion. (i.e. how the polygon was created/derived). Values: • MLT004 = Polygons composed of arcs with various attributes – see arc attributes.
LAST_EDIT_DATE * load source = BUILD_DATE	***Last Edit Date.*** Date indicating when the feature was added and verified by the editor.
LAST_UPDATE_HYDRO_VER_NO * load source = HYD_VER	***Last Updated Hydro Version Number.*** Most recent Hydro release (version) number in which the feature was edited. Example: The first release will have all polygons valued at 1.
SHAPE	***SHAPE.*** ArcSDE feature class geometry parameters.
SHAPE.LEN	***Length.*** ArcSDE internally calculated feature perimeter.
SHAPE.AREA	***Area.*** ArcSDE internally calculated feature area.

EN_SURFACE_WATER_MASK_AR_24K

This feature class contains a combination of the Wisconsin state boundary and the shorelines along Lake Michigan and Lake Superior, and was loaded into ArcSDE from \\centraletgo\libraries\gencov\wtm91cov\hyd24K\version3\shapefiles\hydpmask.shp. It has an outlying box that closes off the bounding area, and, therefore, can be filled in and used as a mask. The mask covers the 1,000 meter 24K Hydrography buffer that extends beyond the Wisconsin state boundary or out into the Great Lakes. This feature class can be used to create a clean display of 24K Hydrography features that lie within Wisconsin's state boundary when creating maps.

FEATURE CLASS COLUMN	DESCRIPTION
OBJECTID	***Object ID.*** Internal ArcSDE unique numerical identifier for "inside Wisconsin" and "outside Wisconsin" areas.
INSIDE_WI_FLAG * load source = INSIDE	***Inside Wisconsin Flag.*** Numeric code indicating if the area of the mask is inside Wisconsin state boundaries. Values: • 1 = inside Wisconsin state boundary. • 0 = outside Wisconsin state boundary.
SHAPE	***SHAPE.*** ArcSDE feature class geometry parameters.
SHAPE.LEN	***Length.*** ArcSDE internally calculated feature perimeter.
SHAPE.AREA	***Area.*** ArcSDE internally calculated feature area.